Pfiesteria and Virginia's Waters

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What is *Pfiesteria*?

Pfiesteria is a dinoflagellate, a microscopic organism that sometimes behaves like a plant and sometimes like an animal. When dinoflagellates reproduce to huge numbers they can cause a discoloration of the water, often referred to as a "red tide." Most red tides do not harm humans or fish, however they can cause a nuisance when they die and reduce the oxygen in the water which can result in fish dying. Red tides occur commonly in Virginia waters, but the kind that are dangerous to humans have never been identified here. *Pfiesteria* is a newly discovered dinoflagellate with a complicated life cycle that includes an unknown number of life stages. In a few of those stages it can produce a toxin that affects fish. It has been associated with "fish kills" in the Neuse River in North Carolina and the Pocomoke River in Maryland and Virginia. It is not associated with a significant discoloration of the water.

What are PLOs?

Now that so much attention is being given to *Pfiesteria*, other, similar organisms are being discovered. Scientists are still learning about these "close cousins" to *Pfiesteria* and have begun to call the whole group Pfiesteria-Like Organisms or PLOs.

Where else have PLOs been found?

They have been found as far south as the Gulf of Mexico and as far north as the Delaware Bay, most commonly in brackish (salty) water. To date, PLOs have been identified throughout the Virginia tributaries of the Chesapeake Bay.

Do PLOs affect humans?

A variety of symptoms have been reported from researchers who worked with *Pfiesteria* in North Carolina and from watermen in both North Carolina and Maryland. Medical teams from university medical schools have examined 39 persons from Maryland and 4 persons from Virginia who thought they had health effects from *Pfiesteria*. These watermen, recreational users and state employees described skin, digestive, respiratory and memory problems. After physical, laboratory and psychological testing, a similar problem with memory was observed in 13 Marylanders and 2 Virginians. There were no other known health problems to explain these abnormalities. Scientific studies are ongoing to confirm these findings and better define the human health effects from exposure to water in which PLOs release their toxin. Medical scientists are calling the health effects Estuary-Associated Syndrome since they do not know if it really is due to *Pfiesteria*.

Is it safe to eat seafood?

To be on the safe side, you should not eat fish or shellfish taken from areas where there are large numbers of sick or dead fish. As with any animal product, you want to consume fresh, healthy specimens. Fish that appear to be peeling or have bleeding sores should be avoided.

Is it safe to swim?

Swimming in areas where there are many dead fish is not recommended. Because the poison from PLOs is probably only present during a fish kill and disappears quickly, water contact should not pose a problem if at least 48 hours have gone by since the fish kill ended.

Is anybody looking for *Pfiesteria* in Virginia?

Virginia agencies and institutions that have responsibilities involving Virginia waters work cooperatively through the Virginia Pfiesteria Task Force to monitor fish, water and sediment samples from the Virginia portion of the Chesapeake Bay and the rivers which empty into the Bay. The Virginia Department of Health urges local watermen, shellfish growers, commercial fisherman and all citizens to report any fish kills so that appropriate samples can be taken and health effect studies can be instituted if necessary.

Who should I call if I see a fish kill or many fish with lesions?

Call the Department of Environmental Quality at ((804) 698-4000 Piedmont Region) (757) 518-2000 (Tidewater Region).

Who should I call if I suspect illness from *Pfiesteria*?

Call your physician, local health department, or the toll-free *Pfiesteria* Hotline at (888) 238-6154 (for Virginia residents only).

VDH VIRGINIA DEPARTMENT OF HEALTH
Protecting You and Your Environment